

REMARKS

In view of the above amendments and following remarks, reconsideration and further examination are requested.

The specification and abstract have been reviewed and revised to make editorial changes thereto and generally improve the form thereof, and a substitute specification and abstract are provided. No new matter has been added by the substitute specification and abstract.

By the current Amendment, claims 1-11 have been cancelled and claims 12-31 have been added.

The Examiner rejected claims 9 and 10 under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. New claim 22 corresponds to former claim 9, and accordingly, this rejection will be addressed as it pertains to new claim 22. Please note that it appears as though claim 10 was inadvertently included in this rejection since claim 10 does not recite the alleged problem noted by the Examiner, and is dependent on claim 7 and not claim 9.

It is respectfully submitted the former claim 9 and new claim 22 are in compliance with 35 U.S.C. § 112, first paragraph, as containing subject matter which is described in the specification so as enable one skilled in the art to make and/or use the invention.

In this regard, the equation Q/V is not merely dividing one velocity by another, but is rather dividing a flow rate by a velocity so as to arrive at a sectional area. Specifically, a flow rate has units of cm^3/min , for example, and velocity has units of cm/min , for example. Accordingly, when a flow rate is divided by a velocity units of cm^2 will result, i.e. a sectional area.

Also, that the application does not express what is the exact value of Q/V , does not support the Examiner's 35 U.S.C. § 112, first paragraph, rejection. In this regard, one having ordinary skill in the art would fully understand that the value of Q/V can change depending upon the specific slurry used and the specific velocity at which the slurry is supplied to the polishing apparatus. The specific value of Q/V is not important, but rather what is important is that this value is greater than the horizontal sectional area of the supply tank that holds the slurry.

Thus, it is respectfully submitted that the 35 U.S.C. § 112, first paragraph, rejection of claim 9 is in error and that this rejection should not be applied against new claim 22.

The instant invention pertains to slurry feeder, a polishing apparatus including this slurry feeder, and a method for supplying slurry. With regard to Fig.1, for example, the slurry feeder includes a slurry supply tank 30, a slurry feed pipe 67 connected to the slurry supply tank, a slurry feed pump (either one of 73-1 through 73-4), and a control system for controlling the feed pump. The slurry feed pump is to supply slurry to a polishing device (any one of 40-1 through 40-4). The control system suspends operation of the slurry feed pump during a time period when the slurry is not being supplied to the polishing device and the polishing device is performing a polishing operation. By suspending operation of the slurry feed pump in such a manner, agglomeration of the slurry can be prevented, which agglomeration might otherwise occur if the slurry is continuously circulated by the pump. Claim 14 is believed to be representative of this slurry feeder, claim 23 is believed to be representative of a polishing apparatus including the slurry feeder, and claim 12 is believed to be representative of a method for supplying slurry by utilizing this slurry feeder.

New claims 12, 14 and 23 generally correspond to former claims 1, 3 and 10, respectively, and accordingly, the rejection of claims 1, 3 and 10 will be discussed as is pertains to new claims 12, 14 and 23.

The Examiner rejected claims 1 and 3 under 35 U.S.C. § 102(a) as being anticipated by Katsumata. The Examiner rejected claims 1 and 3 under 35 U.S.C. § 102(b) as being anticipated by Miyata et al. And, the Examiner rejected claims 1 and 3 under 35 U.S.C. § 103(a) as being unpatentable over White in view of Miyata et al. Even though the Examiner did not reject claim 10 over any prior art, claim 23 (generally corresponding to former claim 10) will be discussed assuming it was rejected over the prior art relied upon by the examiner.

In supporting the 35 U.S.C. § 102(a) rejection based upon Katsumata, the Examiner took the position that Katsumata et al. discloses a slurry feeder that includes a tank 2, a pump P22 and a controller C1, which operates to suspend the pump, and directed Applicants' attention to

column 4, lines 36-39 of this reference. This position taken by the Examiner is respectfully traversed for the following reasons.

Initially, the pump P22 of Katsumata et al. is not for pumping a slurry from a supply tank to a polishing apparatus, as recited in each of claims 12, 14 and 23, but is rather for supplying a dispersing liquid from dispersing liquid tank 22 to preparing tank 2. Additionally, controller C1 controls valves V21 and V22 but is not said to control pump P22. Thus, because pump P22 does not supply a slurry to a polishing apparatus, or an analogous apparatus, the Examiner's interpretation of Katsumata et al. is respectfully submitted to be in error such that the 35 U.S.C. § 102(a) rejection relying on Katsumata et al. should be withdrawn.

Regardless of the interpretation of Katsumata et al. given by the Examiner, even if Katsumata et al. were interpreted in a light most unfavorable to Applicants with regard to patentability of claims 12, 14 and 23, these claims would still not be anticipated by Katsumata et al. In this regard, equating reserve tank 3 with the claimed slurry supply tank, pipe T3, pipe T31 or pipe T4 with the claimed slurry feed pipe, pump P3 or P4 to the claimed slurry feed pump, and wire saw W1 as an apparatus that is analogous to the polishing apparatus would still not result in claims 12, 14 and 23 being anticipated by Katsumata et al. because controller C2 is not for

suspending operation of said slurry feed pump during a time period when the slurry is not being supplied to the polishing apparatus (table) and the polishing apparatus (table) is ... polishing,

as recited in each of claims 12, 14 and 23.

In this regard, controller C2, which is the controller that is used to control flow of slurry to the wire saw is **not** for "suspending operation of said slurry feed pump", as recited in each of claims 12, 14 and 23, but is rather for opening and closing valves (see column 6, lines 36-38, and column 5, lines 25-26, for example). Nowhere is controller C2 said to suspend operation of pump P3 or P4, which supplies slurry from tank 3 to wire saw W1. Accordingly, claims 12, 14 and 23 are not anticipated by Katsumata et al. Thus, claims 12-21 and 23-30 are allowable over Katsumata et al.

With regard to Miyata et al., this reference discloses the same basic system as disclosed by Katsumata et al., and accordingly, suffers from the same drawbacks as does Katsumata et al. with regard to the 35 U.S.C. § 102 rejection of claims 12, 14 and 23. Specifically, in Miyata et al., controller C2, which controls supply of slurry to the wire saw, controls operation of valves but is nowhere disclosed to suspend operation of either of pumps P3 or P4. Thus, claims 12, 14 and 23 are not anticipated by Miyata et al., such that claims 12-21 and 23-30 are allowable over Miyata et al.

White does not resolve the above deficiencies of Katsumata et al and Miyata et al., since White does not disclose or suggest a control system for suspending operation of a slurry feed pump, and accordingly, any combination of Katsumata et al. or Miyata et al. with White would not result in the invention as recited in any of claims 12, 14 and 23. Thus, claims 12-21 and 23-30 are allowable over any possible combination of these references.

New claim 31 generally corresponds to former claim 11, and accordingly, the rejection of former claim 11 will be addressed as it pertains to new claim 31.

The Examiner rejected claim 11 as being anticipated by Katsumata et al., as being anticipated by Miyata et al., and as being obvious over a combination of White and Miyata et al. In rejecting claim 11, the Examiner has taken a position that the method of this claim is anticipated or rendered obvious because

slurry will always move faster than the sediment of the particle because the slurry would have slow down because particle would have separate after the gravity pulls the particles separating from liquid and particle parts.

The rejections of claim 11 issued by the Examiner are respectfully traversed because none of the references relied upon by the Examiner teach or suggest the method as recited in claim 31, and because each of Katsumata et al., and Miyata et al. could operate even if the flow rate of slurry in supply tank 3 is less than a sedimentation velocity of polishing particles in the slurry. Thus, claim 31 is not anticipated by either one of Katsumata et al. and Miyata et al. and is not rendered obvious over a combination of White and Miyata et al., such that claim 31 is allowable.

Laursen does not resolve any of the above deficiencies of Katsumata et al., Miyata et al. or White, and accordingly, claims 12-21 and 23-31 are allowable over any possible combination of the references relied upon by the Examiner.

With regard to new claim 22, as expressed above, this claim is believed to be in compliance with 35 U.S.C. § 112, first paragraph, and the subject matter thereof is not taught or suggested by any of the references relied upon by the Examiner. Accordingly, claim 22 is also allowable.

With regard to the dependent claims, it is respectfully submitted that claims 18 and 21 are patentable in their own right since the Examiner has not established where the features as recited in these claims are taught or suggested by any of the references relied upon by the Examiner. Similarly, claims 27 and 30 are also believed to be patentable in their own right for analogous reasons.

In view of the above amendments and remarks, it is respectfully submitted that the present application is in condition for allowance and an early Notice of Allowance is earnestly solicited.

If after reviewing this Amendment, the Examiner believes that any issues remain which must be resolved before the application can be passed to issue, the Examiner is invited to contact the Applicants' undersigned representative by telephone to resolve such issues.

Respectfully submitted,

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July 18, 2003